Naval S&T: Delivering Disruptive Technologies with Affordable Asymmetric Advantages

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Naval technologies have always had leap ahead moments …

Photo courtesy of Ramón Purcell Photography

… but at what cost?

Photo courtesy of Ramón Purcell Photography

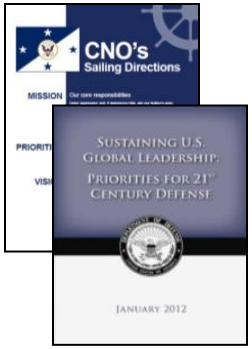
Budget Realities

Navy S&T must always consider the total cost of our new technological advances while working within the constraints of the S&T budget

How do we do that?

Naval S&T Strategic Plan

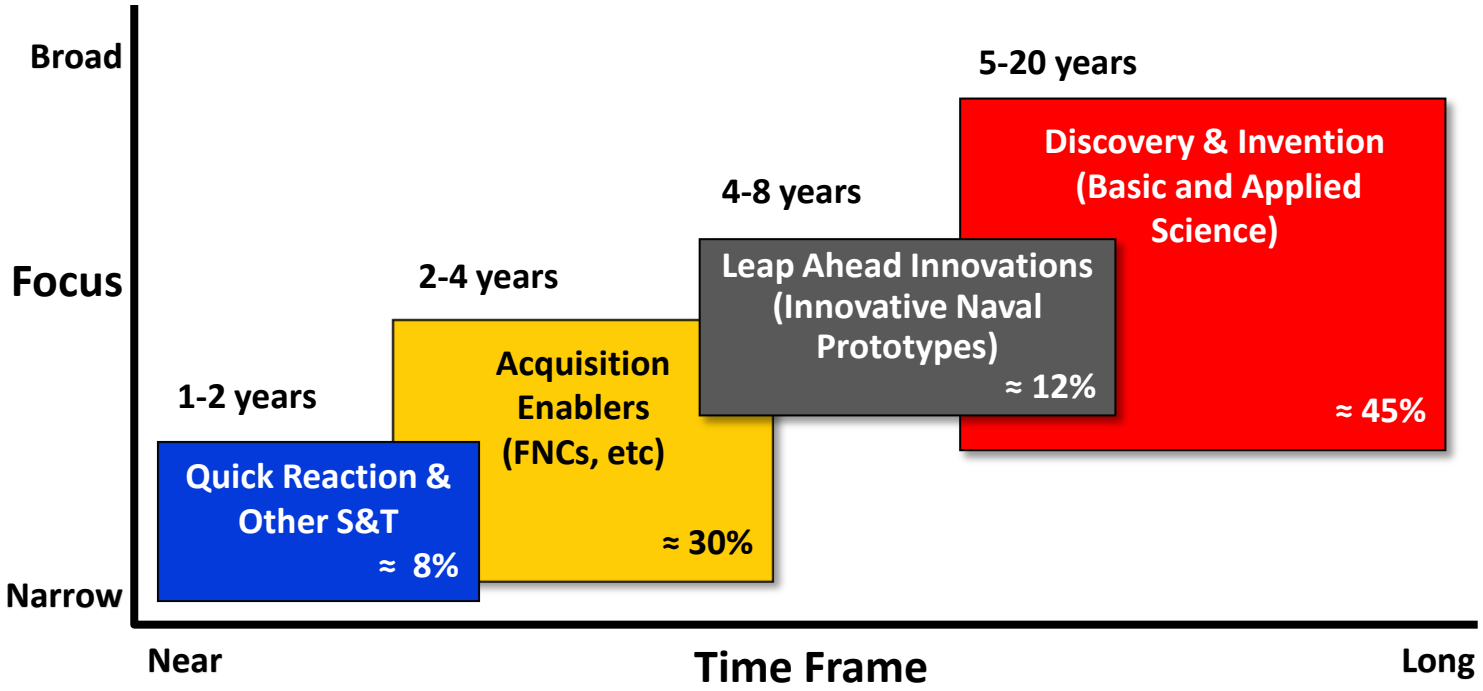
All Naval S&T falls under one or more of these nine focus areas:



- *Assure Access to Maritime Battlespace*
- *Autonomy & Unmanned Systems*
- *Expeditionary & Irregular Warfare*
- *Power Projection/Integrated Defense*
- *Information Dominance*

A2/AD

- *Power & Energy*
- *Platform Design & Survivability*
- *Total Ownership Cost*
- *Warfighter Performance*

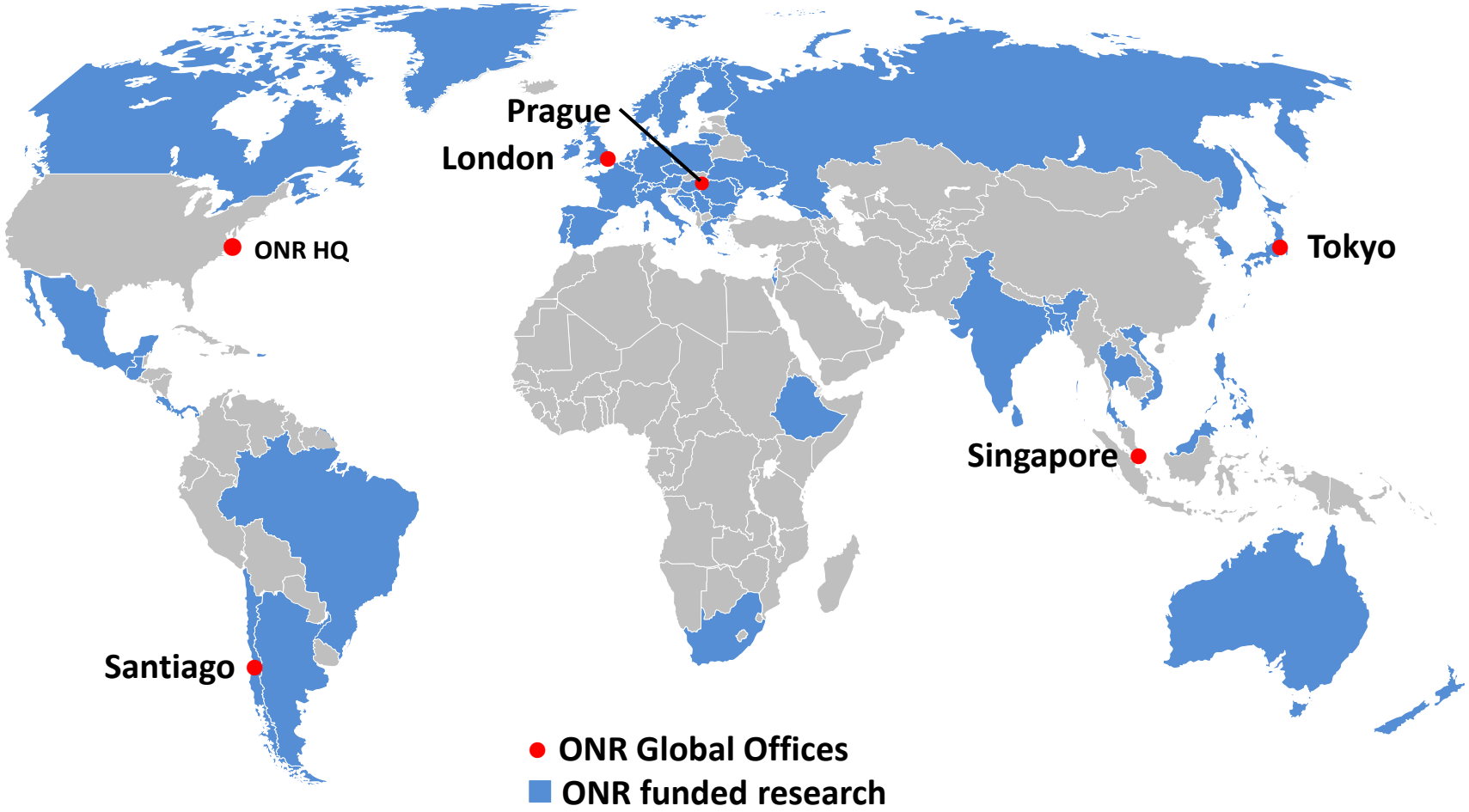


Focus on the needs of the Warfighter and engage with Navy leadership …

Guidance & Requirements	S&T Response		Stakeholder Reviews		Balance & Approval
• DSG • FEA/WSCP • JUONS/JEONS • IPLs/STIPLs • Future Payloads	*Near term* • Quick Reaction	→	Fleet/Warfighter	→	CNR CNO/R3B
	Mid-term, low risk • Future Naval Capabilities	→	Technology Oversight Group (TOG) IPTs	→	TOG, RDT&E Corporate Board
	Mid-term, high risk • Innovative Naval Prototypes	→	INP Review Board	→	CNR, RDT&E Corporate Board
	Long term • Basic Research	→	Peer Review	→	CNR, RDT&E Corporate Board

Requirements Driven – Transition Oriented!

… and Maintain a Global Perspective



Avoid technological surprise,
Leverage advanced technology from wherever we find it

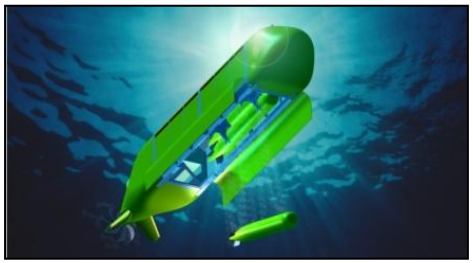
Affordable Asymmetric Advantages
Not an oxymoron

EM Railgun

- **Multi-use weapon at $25K per round …**

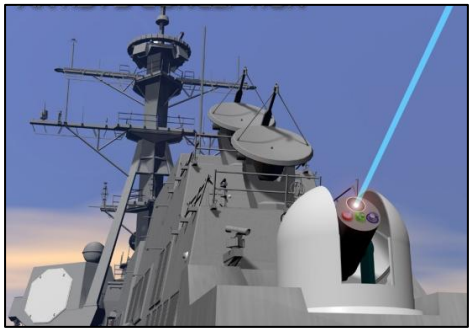
LDUUV

- **ISR at a fraction of the cost of an SSN**



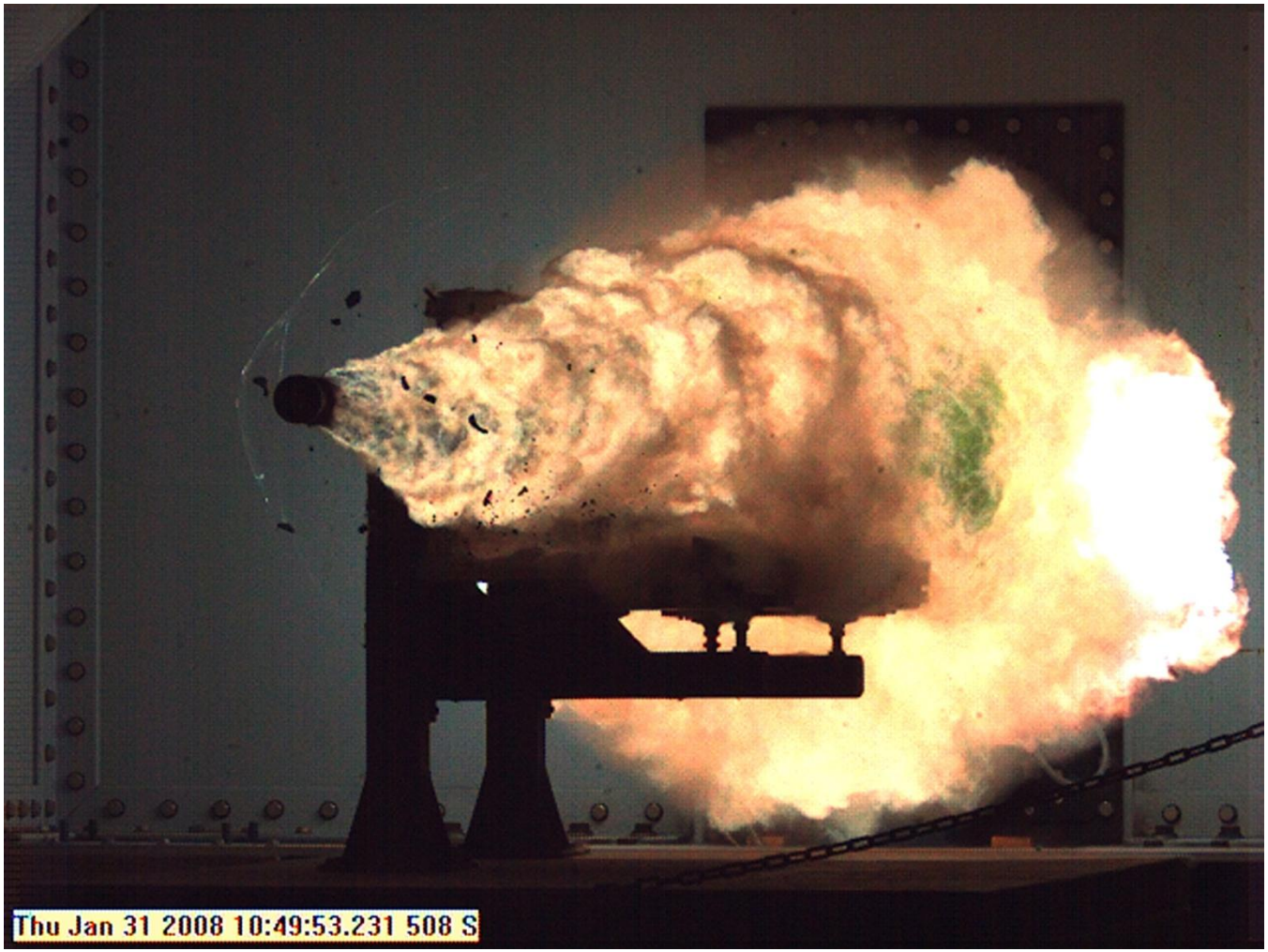
Solid State Laser

- **Less than $1 per "shot"**



EM Railgun … *Fiction?*

EM Railgun … *Fact*



Laser Weapon … *at Sea in 2014*

"Next year we will deploy a laser system onboard USS PONCE for operational testing in the Arabian Gulf."

Admiral Greenert, USN
Chief of Naval Operations

ONR's Mission

DISCOVER, DEVELOP and TRANSITION
innovative science and technology
to meet the needs of naval forces for today and tomorrow …